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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,470	12/28/2001	Everett Arthur Corl JR.	RAL920000129SU1	5433
25299 7590 07/25/2007 IBM CORPORATION PO BOX 12195 DEPT YXSA, BLDG 002 RESEARCH TRIANGLE PARK, NC 27709			EXAMINER BOUTAH, ALINA A	
			ART UNIT 2143	PAPER NUMBER
			MAIL DATE 07/25/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/034,470

Applicant(s)

CORL ET AL

Examiner

Aina N. Boulah

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-4, 6-20, 22-36 and 38-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4, 6-20, 22-36 and 38-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

***Response to Amendment***

This action is in response to Applicant's amendment filed November 23, 2005. Claims 1, 5, 21 and 37 have been cancelled. Claims 2-4, 6-20, 22-36 and 38-50 are pending in the present application.

***Specification***

The reference number 248 in line 1 of page 2 should be changed to 148. Appropriate action is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4, 6-20, 22-36 and 38-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (hereinafter referred to as AAPR) in view of USPN 6,529,508 issued to Li et al. (hereinafter Li).

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Regarding claim 2, AAPR teaches the method for supporting multifield classification according to claim 49, wherein the rule further comprises a field for specifying an action to be applied to the received fragment, the method further comprising a step of: applying the action to the received fragment when the key matches the rule for the received fragment (specification, page 5, lines 18-29).

Regarding claim 3, AAPR teaches the method for supporting multifield classification according to claim 49, further comprising the steps of: receiving a packet at the forwarding platform; and testing the received packet for determining whether the packet represents a fragment; and performing the multifield classification of the received packet by matching a key derived from one or more fields of the received packet to a rule, the rule comprising a plurality of fields including at least one field for specifying whether the received packet's fragmentation characteristics are to be applied when performing the multifield classification (specification; figure 3, page 5, lines 6-20, page 6, line 23 to page 8, line 20).

Regarding claim 4, AAPR teaches the method for supporting multifield classification according to claim 49, further comprising the steps of: determining whether there are any transfer control protocol (TCP) rules; and performing the multifield classification if no TCP rules are indicated (figure 1).

Regarding claim 6, Li teaches the method for supporting multifield classification according to claim 49, wherein the preprocessing determines to forward the received fragment to a slow-speed forwarding platform (col. 1, lines 59-66).

Regarding claim 7, AAPR teaches the method for supporting multifield classification according to claim 49, wherein the preprocessing determines to discard the received fragment (specification: page 5, lines 21-22).

Regarding claim 8, Li teaches the method for supporting multifield classification according to claim 49, wherein the one or more flags are exclusive of one another (col. 3, line 58 to col. 4, line 15).

Regarding claim 9, AAPR teaches the method for supporting multifield classification according to claim 49, wherein the one or more fields that comprise the key derived from the received fragment include fields from headers representing one or more transmission protocols (specification: page 5, lines 6-29).

Regarding claim 10, AAPR teaches the method for supporting multifield classification according to claim 9, wherein the one or more transmission protocols include: Internet Protocol

(IP); User Datagram Protocol (UDP); Internet Control Message Protocol (ICMP); and Internet Group Management Protocol (IGMP) (figure 1).

Regarding claim 11, AAPR teaches the method for supporting multifield classification according to claim 9, wherein the one or more fields include: source address (SA), destination address (DA), protocol, fragmented flag (FRAG) and not subsequent flag (NO SUBS) from a header of an IP transmission protocol; and a source port (SP) and a destination port (DP) from a header of a TCP transmission protocol (figure 1).

Regarding claim 12, AAPR teaches the method for supporting multifield classification according to claim 49, wherein a field in each rule comprises one or more values to be matched against the one or more fields of the derived key for the received fragment (specification: page 5, lines 6-29).

Regarding claim 13, Li teaches the method for supporting multifield classification according to claim 12, wherein the one or more values represent an upper and a lower limit for a field in each rule (col. 5, line 48 to col. 6, line 5).

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Regarding claim 14, Li teaches the method for supporting multifield classification according to claim 49, wherein the one or more values represent a mask and a value (figure 9A).

Regarding claim 15, Li teaches the method for supporting multifield classification according to claim 49, wherein the plurality of rules are stored in the forwarding platform (figure 5).

Regarding claim 16, AAPR teaches the method for supporting multifield classification according to claim 49, wherein the plurality of rules is stored in a rules database (specification: page 5, lines 6-29).

Claims 17-20, 22-32 are similar to claims 49, 2-4 and 6-16 therefore are rejected under the same rationale.

Claims 33-36 and 38-48 are similar to claims 49, 2-4 and 6-16 therefore are rejected under the same rationale.

Regarding claim 49, AAPR teaches a method for supporting multifield classification of a packet fragmented into a plurality of fragments in a wire-speed forwarding platform, the method comprising:

- (a) receiving a fragment of the fragmented packet and deriving a key from one or more fields of the received fragment (specification: figure 3; page 5, lines 6-29);
- (b) preprocessing the received fragment by querying a data structure that comprises one or more flags (specification; figure 3, page 5, lines 6-20, page 6, line 23 to page 8, line 20);
- (c) redirecting or discarding the received fragment if it is determined that the received fragment is not to be classified (specification; figure 3, page 5, lines 6-20, page 6, line 23 to page 8, line 20); and
- (d) performing multifield classification of the received fragment by matching the key to a rule out of a plurality of rules, the rule comprising a plurality of fields including at least one field for specifying whether the received fragment's fragmentation characteristics are to be applied when performing the multifield classification (specification; figure 3, page 5, lines 6-20, page 6, line 23 to page 8, line 20).

However, AAPR does not explicitly teach receiving the fragment packet at the forwarding platform. Li teaches receiving fragmented packets at a forwarding platform (figure 5). At the time the invention was made, one of ordinary skill in the art would have been motivated to receive and forward fragment packet at the forwarding platform in order to provide a plurality of different levels of service over computer networks (col. 1, lines 16-25).



Regarding claim 50, AAPR teaches a method for supporting multifield classification of a packet fragmented into a plurality of fragments in a wire-speed forwarding platform, the method comprising:

(a) receiving a fragment of the fragmented packet and deriving a key from one or more fields of the received fragment (specification; figure 3, page 5, lines 6-20, page 6, line 23 to page 8, line 20);

(b) determining whether there are transfer control protocol (TCP) rules and if it is determined that there are no TCP rules indicated performing multifield classification of the received fragment according to step (d) (specification; figure 3, page 5, lines 6-20, page 6, line 23 to page 8, line 20);

(c) preprocessing the received fragment if there are TCP rules by querying a data structure that comprises one or more flags for determining whether the received fragment is to be classified and redirecting or discarding the received fragment if it is determined that the received fragment is not to be classified (specification; figure 3, page 5, lines 6-20, page 6, line 23 to page 8, line 20); and

(d) performing multifield classification of the received fragment by matching the key to a rule out of a plurality of rules, the rule comprising a plurality of fields including at least one field for specifying whether the received fragment's fragmentation characteristics are to be applied when performing the multifield classification (specification; figure 3, page 5, lines 6-20, page 6, line 23 to page 8, line 20).

However, AAPR does not explicitly teach receiving the fragment packet at the forwarding platform. Li teaches receiving fragmented packets at a forwarding platform (figure 5). At the time the invention was made, one of ordinary skill in the art would have been motivated to receive and forward fragment packet at the forwarding platform in order to provide a plurality of different levels of service over computer networks (col. 1, lines 16-25).

### ***Response to Arguments***

Applicant's arguments filed November 23, 2005 have been fully considered but they are not persuasive.

In response to Applicant's argument that the AAPA and Li combination does not address "the received fragment preprocessing step which comprises querying a data structure that comprises one or more flags for determining whether the received fragment is to be classified in the forwarding platform," the PTO respectfully submits that this is being taught by the AAPA combo in figure 3 of AAPA. Specifically, step 312 of figure 3 illustrates querying a data structure whether a TCP classification should be performed (step 322).

In response to Applicant's argument that AAPA and Li combination fails to teach the step of "redirecting or discarding the received fragment from the forwarding platform if it is determined that the received fragment is not to be classified at the forwarding platform," the PTO respectfully submits that this step is being illustrated in figure 3 of AAPA. Specially, step 312 discloses obtaining and applying actions to fragment that is not classified. In this case, the "action" performed is interpreted as "redirecting" the received fragment as claimed.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alina N. Boutah whose telephone number is 571-272-3908. The examiner can normally be reached on Monday-Friday (9:00 am - 5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.